8 August 1975

MEMORANDUM FOR: Samuel V. Wilson, Lieutenant General, USA
Deputy to the DCI for the Intelligency Community

SUBJECT: Stating Uncertainties in Intelligence Estimates

1. This is in response to your letter to Dr. Proctor of 25 July 1975. As you have noted, the problem of stating more explicitly the uncertainties in political judgments has been with us for a long time. Sherman Kent, despite heroic efforts, was not entirely successful in winning acceptance for his scheme of attributing mathematical odds to verbal expressions of probability. Perhaps the best exposition of Sherman's ideas is an article in Studies in Intelligence, Vol. 8, No. 4, Fall 1964. Sherman himself sponsored a fairly ambitious project to find out what the producers and the customers of intelligence estimates meant -- in numerical terms -- in the use of common estimative words. This project, 25X1A9A carried out by [redacted] is described in an article in the same issue of Studies cited above.

25X1A9A 2. The [redacted] and Kent articles illustrate the inherent difficulties in using numerical equivalents of estimative words to convey a more precise meaning of uncertainty. Doubtless there have been other efforts in the past ten years to tackle the problem, and one could review this activity and summarize the results. It would, however, be a pretty sterile exercise, ending with conclusions not very different from Kent and [redacted] 25X1A9A

3. We would suggest instead that some new techniques be brought to bear on the problem of more explicit statements of uncertainty. The Analytical Techniques Group of OPR as part of its work in the development of forecasting techniques and predictive measures has dealt with the need to reduce ambiguity in intelligence assessments. The various Bayesian analyses conducted by this Group constitute one approach to improved clarity in expressions of uncertainty. The experience of the Analytical Techniques Group in the use of quantitative measures and group assessments suggests that the problem of uncertainty extends back to the point at which the intelligence problem is defined. To come up with more explicit intelligence assessments it is necessary to articulate the problem more carefully and to design the analysis more systematically -- or more imaginatively -- than is normally done.

4. The Analytical Techniques Group is now testing procedures by which forecasting and estimative techniques currently used by industrial and consulting firms can be applied to the intelligence process. Of particular interest is the use of subjective -- but explicitly formulated -- expert opinion to assess the impact of a variety of contingencies upon a given state of affairs. Should these experiments yield positive results, the new techniques would enable a working group of intelligence analysts to identify more clearly the areas and levels of uncertainty within a particular intelligence question, and to express the uncertainty with greater clarity. The use of such an approach would tend to generate estimates of a range of possible outcomes or future scenarios at various levels of probability.

5. This project is still in an exploratory phase in OPR. Our previous experiences with the adaptation of techniques and methods from academic or business applications to intelligence suggest that it generally takes more time and sweat than originally thought. Nonetheless, the various facets of forecasting so far examined show considerable promise and may help directly to make explicit the uncertainties inherent in political judgments.

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LEWIS J. LAPHAM
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cc: DDI